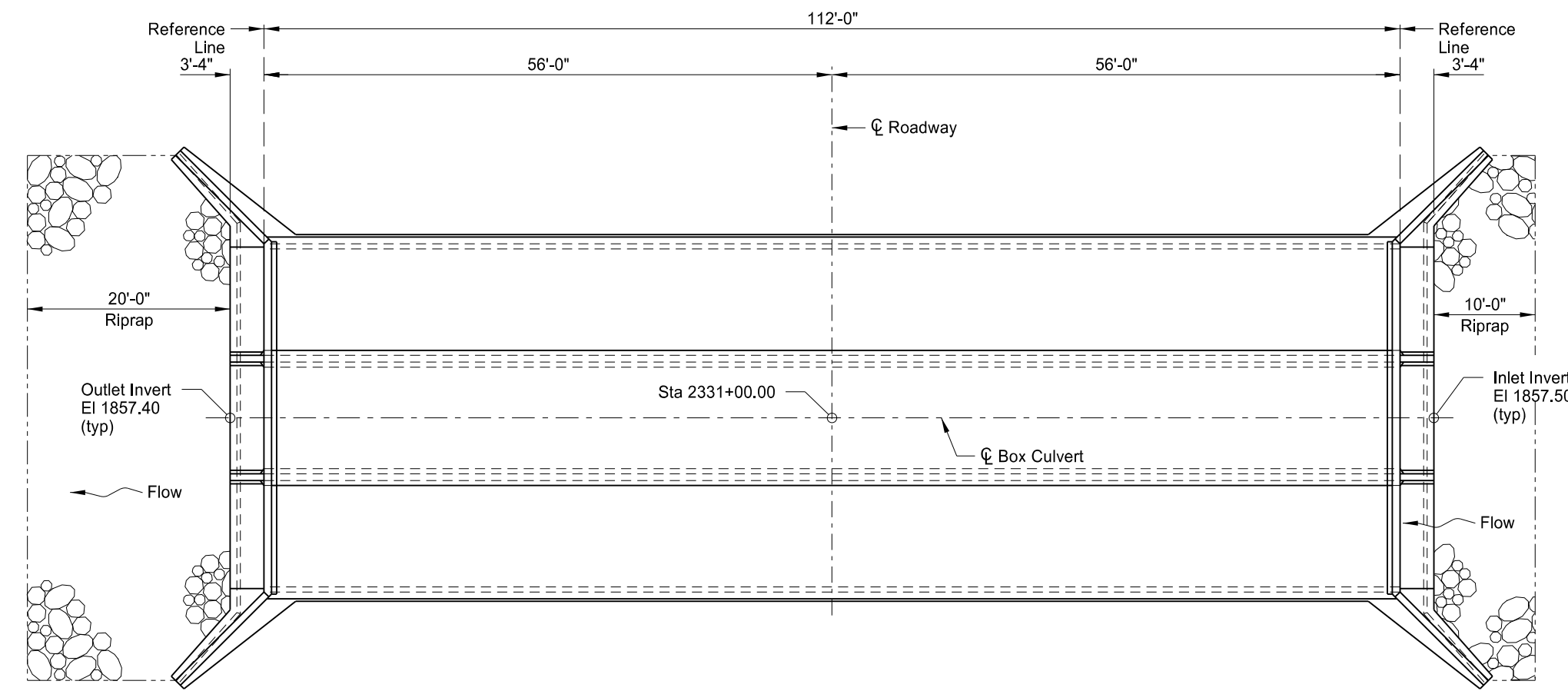
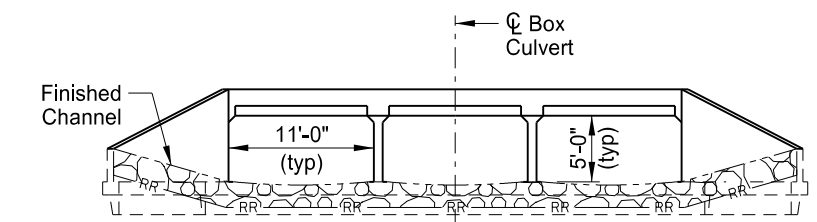


STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
ND	project number	170	1



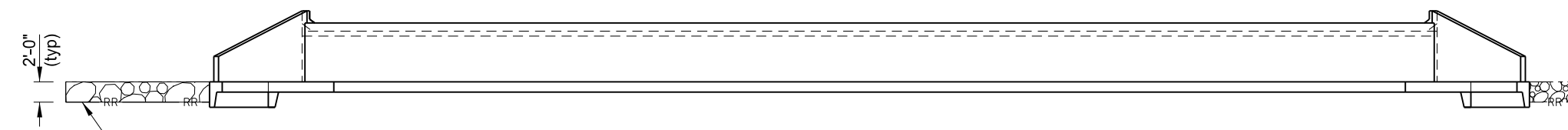
PLAN



END VIEW

DESIGN STRENGTHS:
 f'c = 3,000 psi ~ Class AE-3 Concrete
 fy = 60,000 psi ~ Reinforcing Steel
 Load & Resistance Factor Design

This drawing is preliminary and not for construction or implementation purposes.



ELEVATION

HYDRAULIC DATA:

Drainage Area	9.8	sq mi
Stream Gradient	0.0067	ft/ft
Design Frequency	50	yr
Design Discharge	991	cfs
Design Headwater Stage	1862.38	ft
Design Tailwater Stage	1860.17	ft
Velocity Through Culvert	9.87	fps
100-Year Frequency Discharge	1245	cfs
100-Year Frequency Headwater	1863.18	ft
Overtopping Stage	1867.48	ft
Overtopping Discharge	2243.6	cfs

BOX CULVERT BID ITEMS

SPEC	CODE	ITEM DESCRIPTION	UNIT	QUANTITY
		REMOVAL OF STRUCTURE	L SUM	1
210	0050	BOX CULVERT EXCAVATION	EA	1
210	0210	FOUNDATION FILL	CY	690
210	0405	FOUNDATION PREPARATION-BOX CULVERT	EA	1
256	0200	RIPRAP GRADE II	CY	85
602	1131	CLASS AE-3 CONCRETE-BOX CULVERT	CY	326.2
612	0114	REINFORCING STEEL-GRADE 60-BOX CULVERT	LBS	47,012
709	0100	GEOSYNTHETIC MATERIAL TYPE G	SY	520
709	0155	GEOSYNTHETIC MATERIAL TYPE RR	SY	170

SPECIAL PROVISIONS	
SSP 2	MIGRATORY BIRD TREATY ACT
HL-93 DESIGN LOADING	
LOCATION	
CLEAR SPAN 3 x 11' CLEAR HEIGHT 5' MAXIMUM FILL 0' STATION: 2331+00.00	
REINFORCED CONCRETE TRIPLE BOX CULVERT LAYOUT	
ND DEPARTMENT OF TRANSPORTATION BRIDGE DIVISION	